13 September 2022

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Lilian Abreu
Remedial Project Manager
U.S. Environmental Protection Agency
Region 9
75 Hawthorne Street (SFD-7-1)
San Francisco, CA 94105

RE: Response to EPA Comments Received 27 July 2022 Regarding the Building Specific Work Plan Addendum, 811 East Arques Ave, Sunnyvale, California, 7 July 2022

CERCLIS Site CAD070466479

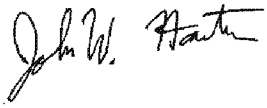
Dear Ms. Abreu:

This letter is submitted on behalf of Philips Semiconductors Inc (Philips) in response to the EPA comments received on 27 July 2022 in regards to the *Revised Building Specific Work Plan Addendum (BSA), 811 East Arques Ave, Sunnyvale, California* submitted 7 July 2022. Comments were further discussed on 12 August 2022. The revised text in track changes is attached electronically. A pdf of the entire revised report has been also resubmitted.

The response to comments table has been updated and is included in this cover letter.

If you have any questions regarding this correspondence, please call me at (415) 799-9937.

Sincerely,



J. Wesley Hawthorne, PE, PG
President

JWH/ae/at

Cc (email): Shau-Luen Barker, Philips Semiconductors

EPA Comments 7/27/2022 *	Locus Response 9/13/2022
6. Page 29 sect 5.3. Only the sampling tube line should be purged for the sewer cleanout sampling, do not purge the riser. Delete the sentence "Dimensions of the riser will be taken for purge volume calculations". See attached examples of sewer cleanout sampling procedures and revise text in this section and other sections accordingly.	Section 5.3 text has been updated as requested. Sampling tube line purging is included in a new section, 5.4.1 Sewer Gas Sample Collection.
7. Unclear about the use of "in-line" and "ambient" helium detector. See other comments bellow about the "in-line" for sub-slab vapor pins.	See response to comment 8.b
8. Page 116, section 2.1 –	
a. It is not feasible to perform a sewer gas sampling using a shroud. Therefore, it is not possible to conduct a helium test on the sewer cleanout. Please edit the text to delete any reference to sewer gas in this section and include another section specific for sewer cleanout gas sampling. See attached to this email a few examples of write-ups for sewer cleanout sampling. One of the examples presented shows a 6L canister, but 1L canister can be used as the screening values are the same as sub-slab soil gas and the laboratory detection limits can be achieved.	It is physically feasible to use the shroud considering this particular sewer gas access point is flush to grade, however because it is inherently difficult to isolate a sewer sample, a shroud will not be used for sewer gas sampling. Sewer gas sampling has been removed from Appendix F and a new section incorporated, Section 5.4.1.

EPA Comments 7/27/2022 *	Locus Response 9/13/2022
b. It is unclear what "in-line Helium" means and how it would be operated for a sub-slab port sampling. This "in-line Helium" detection may not work with sub-slab port sampling as the required purge volume is very small (e.g. <50 ml), unlike other types of deep soil gas wells that could have large purging volumes (e.g. >2,000 ml). To evaluate the Helium concentration in the purged gas of a sub-slab port, it is necessary to collect the purged air in a tedlar bag (at least 300 mL is need) using a pump with flowrate not to exceed 200 mL/min. The air in the tedlar bag would be analyzed using a hand-held Helium detector. The Helium detector should not be connected directly to the purging line as its pump is not designed to purge the soil gas port.	The reference to the in-line helium monitoring has been removed from Section 2.1 of the sampling SOP (Appendix F). Helium monitoring of the purged air has been added.
c. Indicate that a pump with flowrate not to exceed 200 mL/min will be used.	A flow regulator will be used to control flow for both sampling and purging. The equipment list in Section 2.1 has been updated to specify the flow regulator flow rate will not exceed 200 ml/min.
9. Page 117 Sect 2.3.1 - Indicate that the laboratory sampling manifold is equipped with a flow controller not to exceed 200mL/min flowrate.	Similar language was included in Section 2.3.4 and has been copied over section 2.3.1 for clarity.
10. Page 118 section 2.3.2 decrease the time for shut-in test from 5 min to 1 min.	The report will be revised as suggested.

EPA Comments 7/27/2022 *	Locus Response 9/13/2022
11. Page 118. The description of the "in-line Helium detector" in the purge line is questionable. Note that any purged gas needs to be collected into a tedlar bag. It should not be released into the indoor air. Also, if there would be only one hand-held helium detector, that should be inserted initially into the shroud (through a small hole on the side of the enclosure) to measure shroud concentration during purging. Once the purged air is collected in the tedlar bag, the detector is removed from the shroud and used to measure the tedlar bag concentration. After that the detector is inserted again on the shroud through the same hole, to measure shroud concentration while the sample is being collected. See attached text example.	Purged gas will be captured in a tedlar bag as suggested. A helium detector will be used to measure the concentration in the bag and released outdoors.
12. Page 119 section 2.3.3. Please provide clarifications to EPA about the "in-line" and "ambient" Helium detector, see previous comments.	The in-line approach has been replaced with tedlar bag purged air collection. Section 2.3.3 has been updated.
13. Page 100 "Wet/dry vacuum" I have concerns of using water and that infiltrating into the well. I would recommend applying only dry vacuum and use of PPE for anyone around 5 ft, and no one without PPE allowed within 20ft distance.	A wet/dry vacuum's intended use is for dust control during drilling through the slab. Water is not planned to be used. The name has been changed for clarity. Dust monitoring has also been added to Section 2.3 of the Vapor Pin Installation SOP (Appendix E).
14. Include QA/QC, for example: - number of Field duplicates and acceptable differences. -Laboratory QC/QA, like canister batch certified clean, etc. -Preservation and holding time -Initial canister pressure check, reject if vacuum less than 26inHg. -Personnel qualifications/staff trained to do the work	Section 5.4 has been revised to include checks on canisters and hold times. A new section on quality control samples and a reference to QAQC measures previously established in the Vapor Work Plan has also been added.

EPA Comments 7/27/2022 *	Locus Response 9/13/2022
15. Edit the text to indicate Helium average concentration in the shroud at 20% (range of 15% – 25%) – It should be kept in mind the detection limit of the instrument to detect the concentration in case there is a leakage. (same for section 2.3.4 on page 120)	The Soil Gas Sampling SOP (Appendix F) was revised as suggested.
16. Page 119 section 2.3.3. Edit text as follows "...above the accepted allowed maximum (which is 5% of the shroud concentration) are not present."	The Soil Gas Sampling SOP (Appendix F) was revised as suggested.
17. Page 119 section 2.3.3. Edit first sentence to indicate: "Following a successful shut-in test,..."	The Soil Gas Sampling SOP (Appendix F) was revised as suggested.
18. Page 5 and page 39. Table 4 title; replace title by "Sub-Slab Soil Gas and Sewer Gas Evaluation Criteria" – on Table 4 edit the captions of the second row, replacing "Sub-Slab Screening Levels" by "Sub-Slab Soil Gas and Sewer Gas Screening Levels"	The report was revised as suggested
19. Page 38. Table 3 title: correct it to "Sampling Locations and Analysis", as indicated on page 5.	The report was revised as suggested
20. Page 29 sect 5.2...replace: "...the vapor pin may penetrate the barrier..."by "...the drilling through the slab may penetrate the barrier..."	The report was revised as suggested
21. Page 30 section 5.4. replace text "...for analysis by VOC TO-15..." by "...for analysis of site-specific chemicals of concern by USEPA Method TO-15..."	The report was revised as suggested
22. Page 100, Vapor Pin: the listed links were not accessible, please provide the files to EPA.	The report hyperlinks were replaced with URLs for EPA to access
23. Page 102. Section 2.4 Bullet 3 last sentence: include "barrier" after "moisture" to state " where the moisture barrier has been punctured"	The report was revised as suggested

*Comment numbering continued from previous EPA comments, as seen in prior submittals